

REMARKS

Claims 8-9, 23, 31-32, 40, 62, 74-75 and 78 have been canceled without prejudice to resubmission. New claims 87-105 have been added. Upon entry of this amendment, claims 1-7, 10-14, 16-22, 24-30, 33-39, 41-61, 63-73, 76-77 and 79-105 will be pending in the present application.

The Applicant expresses gratitude for the in-person interview on November 12th of 2009. The amended claims and the remarks of this supplemental amendment are consistent with the issues discussed during the interview.

The claims have been amended to further clarify the applicant's invention, including clarification to improve the readability of the claims. The portion of claims 1, 81, and 83 locating the inner firewall between the master control unit and processing unit has been deleted. In **independent claims 1, 80, and 82**, the functioning of **the inner firewall** has been clarified in terms of **being configured with hardware to make the master control unit and one of the processing units inaccessible from the Internet**. In claims 1, 81, and 83, the inner firewall is **further configured in a manner that permits access to at least one processing unit from the Internet**. Both preceding inner firewall configurations exist when the computer is connected to a network including the Internet. Also, the limitation regarding connection to a network including the Internet has been moved to the claim preamble.

In the amended claims, the term **"master"** is added to modify **"control unit"** to use the same terminology as the textual specification relating to **Figures 10C and 10D**, as well as to clarify that the master control unit is configured to control the processing units. Further, claims 10, 50, 73, 80, and 82 have been amended to specify that the master control unit is **"configured using hardware and firmware."** Also, the network is specified as including **the Internet**, which presents **unique security problems** compared to other networks.

"Personal" has been deleted from the phrase "personal computer" throughout the claims. The definition of the microprocessor as a "general purpose" microprocessor has been moved from independent claim 1 to dependent claim 99 and deleted in other independent claims, as well as from claim 77. The dependent claims have been adjusted to account for amendments made to the claims from which they depend.

The Examiner's indication that claims 77, 85 and 86 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and to overcome the rejections of the base claim under 35 U.S.C. 112 is acknowledged with appreciation. Claims 77, 85 and 86 all depend from claim 1. Claim 1 has been amended to address the indefiniteness issues raised in the previous office action and claims 77, 85 and 86 have been further revised, as indicated below, to improve the clarity of these claims and to overcome the rejections under 35 U.S.C. 112. An indication of the allowability of these claims, as amended, is requested. Claims 10, 50, and 73 have been combined with claim 1 as currently amended to form newly independent claims, with the last element of claim 1 modified as appropriate for the second firewall of claims 10, 50, and 73.

Claims 1, 3-4, 10, 50, 73, 76-77, 81 and 83 have been rejected under 35 U.S.C. 112, second paragraph as being indefinite. Reconsideration of this rejection is requested for the reasons given below.

Claims 1, 81 and 83 were rejected on the basis that "...it is unclear as to whether the applicant's are re-defining a common term "microchip" as an entire computing system (i.e. processor, memory, with instructions stored on the memory for execution by the processor to perform steps) or that the "microchip" is actually a substrate such as a wafer that has hardware sub-components on it where the combination of sub-components as a whole is a microprocessor..." Withdrawal of this rejection is requested since a microchip is a substrate provided with an integrated circuit. This is consistent with the Examiner's statements that a

microchip may include "one or more firewalls built into the microchip itself to separate hardware sub-components (i.e. one substrate/wafer with several sub-components on it separated by an "inner firewall")." In view of this, applicant submits that the claims of the present application are definite.

The Examiner objected to the prior claim limitation requiring, "said at least one inner firewall being located between said at least one control unit and at least one of said at least two processing units." This limitation has been amended to require that the at least one inner firewall be configured to make at least one of said at least two processing units inaccessible in order to overcome this objection. Applicant submits that this new claim language is clear and definite, and thus withdrawal of the rejection is requested.

Claims 3, 4, 10, 50, 73 and 76-77 were rejected on the basis that the limitation, "said at least one microchip includes at least one special purpose microprocessor" is indefinite. Withdrawal of this rejection is requested since a microchip is a substrate provided with an integrated circuit. As now amended, only claim 3 requires that the claimed microchip includes a special purpose microprocessor. In such an embodiment, the integrated circuit of the microchip implements a special purpose microprocessor. Thus, claim 3 is definite. The same argument applies to the limitation, "said at least one microchip includes at least one personal computer system on said microchip." There is nothing indefinite about this since the term "microchip" is not limited by its definition to including one sub-component of a computing system, but instead a microchip is defined as including an integrated circuit which may implement anything from one sub-component through an entire computing system (e.g. a system-on-a-chip). Withdrawal of the rejections under 35 U.S.C. 112 is requested.

With respect to paragraph 4 of the Office Action, claims 1, 10-17, 21-22, 24-25, 33-44, 50-61, 65-67, 69-71, 73, 76, 79 & 84 have been rejected over a combination of U.S. Patent no. 5,896,499 (McKelvey) with U.S. Patent no. 5,784,551 (De Leva et al.)

and U.S. Patent no. 6,366,472 (Alina et al.). Reconsideration of this rejection is requested on the basis that none of McKelvey, De Leva et al. or Alina et al. discloses the applicant's claimed feature, that the inner firewall is configured to make the master control unit and at least one processing unit **inaccessible** from the network including the Internet nor do any of these references disclose a Faraday cage that substantially **surrounds** a microchip.

McKelvey makes very clear that access to the main processor is merely filtered and that the main processor is not inaccessible. **"The secondary embedded security processor** is controlled by the main processor and intercepts all communications from external untrusted or unverified network systems and **verifies that the attempted communication is permissible before allowing the external network communication traffic to have access to the main processor..."** (column 5, lines 41-46 of McKelvey).

This feature is absolutely central to McKelvey's invention, as indicated by a nearly identical description in his single paragraph invention description in the DISCLOSURE OF INVENTION, about one half of which states: **"The embedded security processor** is controlled by the main processor and intercepts all communications from external untrusted or unverified network systems (i.e. unsecure networks) and **verifies that the attempted communication is permissible before allowing the external network communication traffic to access the main processor...."** (column 4, lines 13-19). See also the abstract, particularly the second half thereof, and the discussion at column 8, lines 25-29 of McKelvey.

Moreover, far from making the main controller and a processing unit **inaccessible** from a network including the Internet as claimed by the applicant, McKelvey requires that **all** of the communications of the computer, including those from the Internet, go through the main processor 110 (column 6, lines 28-34). In addition, in

a preferred embodiment, "... the embedded security processor 173 is restricted to communicating **only** with the main processor 110" and "the main processor will forward the communication to the appropriate system component or location...." (column 6, lines 37-38 and lines 42-43). Thus, since the security processor 173 is connected to external networks including the Internet, the main processor 110 is connected to the Internet and thereby made **accessible** to the Internet, with mere filtering by the security processor 173. Also, neither of De Leva et al. nor Alina et al. discloses a firewall which is configured to make the master control unit and at least one processing unit inaccessible from a network including the Internet.

Neither of McKelvey nor De Leva et al. discloses a Faraday cage. Although Alina et al. discloses a Faraday Cage, the Faraday Cage of Alina et al. does not substantially surround a microchip. Specifically, the embodiment of Fig. 5 of Alina et al. shows an "EMI containment box 51, such as a Faraday Cage" (column 2, lines 38-39), but notes that "EMI containment box 51 is not needed to fully enclose an EMI producing device" (column 2, lines 55-57). In fact, none of the embodiments shown in Figs. 1-7 of Alina et al. show a Faraday Cage substantially surrounding a microchip as claimed by the applicant. As shown in Fig. 5, EMI containment box 51 of Alina et al. does not appear to surround anything other than conductive enclosure 50. Rather, it appears that Alina et al. teaches away from using a Faraday Cage to substantially surround a microchip since it uses a Faraday Cage instead as a cover for only a portion of printed circuit board 54.

Thus, in summary, none of the McKelvey, De Leva or Alina et al. references cited by the Examiner disclose: (1) an inner firewall configured to make a master control unit and at least one processing unit inaccessible from a network including the Internet, or (2) a Faraday Cage that substantially surrounds a microchip. The same arguments apply to the

dependent claims which depend from claim 1 that have been rejected over a combination of these references and thus withdrawal of the rejection is requested for at least these reasons.

Claims 80-83 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 5,905,429 (Homstein et al.). Claims 80-83 all require an inner firewall configured to make a master control unit inaccessible from a network including the Internet. Homstein et al. does not disclose this feature of claims 80-83 and therefore does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claims 2, 45-47, 63-64 and 72 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 6,950,947 (Purtell et al.). Claims 2, 45-47, 63-64 and 72 depend from claims 1, 10 and 50 discussed above and thus include the features of these claims. Purtell et al. does not disclose the features of claims 1, 10 and 50 which are missing from the primary references and thus does not cure the deficiencies of the primary references. Withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claims 3 and 7 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 5,838,542 (Nelson et al.). Claims 3 and 7 depend from claim 1 discussed above and thus include the features of this claim. Nelson et al. does not disclose the features of claim 1 which are missing from the primary references and thus does not cure the deficiencies of the primary references. Withdrawal of this rejection is requested for the same

reasons as advanced above in relation to the rejection of claim 1 over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claims 8 and 26 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 5,627,879 (Russell et al.). Claim 8 has been cancelled without prejudice to resubmission. Claim 26 depends from claim 10 and thus includes the features of claim 10 which are not disclosed by the primary references. Russell et al. does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claim 9 has been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 6,208,634 (Boulos et al.). Claim 9 has been cancelled without prejudice to resubmission thereby obviating this rejection.

Claims 18-19, 27-28, 30 & 68 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 6,073,209 (Bergsten). Claim 28 has been cancelled without prejudice to resubmission. Claims 18-19, 27, 30 and 68 depend from one of claims 10 and 50 and thus include the same features of these claims which are not disclosed in the primary references. Bergsten does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claim 20 has been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no.

5,764,889 (Ault et al.). Claim 20 depends from claim 10 and thus includes the features of claim 10 which are not disclosed by the primary references. Ault et al. does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claim 29 has been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 5,784,628 (Reneris et al.). Claim 29 depends from claim 10 and thus includes the features of claim 10 which are not disclosed by the primary references. Reneris et al. does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

Claims 48 and 49 have been rejected under 35 U.S.C. 103 over a combination of McKelvey, De Leva et al. and Alina et al., as applied above, and further in view of U.S. Patent no. 5,606,615 (Lapointe et al.). Claims 48-49 depend from claim 10 and thus include the features of claim 10 which are not disclosed by the primary references. Lapointe et al. does not cure the deficiencies of the primary references, as discussed above, and thus withdrawal of this rejection is requested for the same reasons as advanced above in relation to the rejection over a combination of the primary references to McKelvey, De Leva et al. and Alina et al.

By responding to this Official Action, the applicant does not concede that the references cited by the Examiner are, in fact, prior art against the present application and

reserves the right to challenge the status of one or more of the references as prior art at some future time, if desired.

Favorable consideration and issuance of a Notice of Allowance is requested. Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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